

CLAIMS

What is claimed is:

1. A multi-chip module system comprising:
a substrate having at least a first position having, in turn, a predetermined configuration for locating a first semiconductor device thereat and having at least one other vacant position having, in turn, a predetermined configuration for locating a second semiconductor device thereat on the multi-chip module system; and
a first semiconductor device located in the first position of the substrate for use in said multi-chip module system, the first semiconductor device having a first predetermined performance characteristic.
2. The multi-chip module system of claim 1, further comprising:
the other vacant position having a predetermined configuration for locating a second semiconductor device thereat which is substantially the same as the first semiconductor device.
3. The multi-chip module system of claim 1, further comprising:
the other vacant position having a predetermined configuration for locating a second semiconductor device thereat; and
a second semiconductor device having a predetermined performance characteristic substantially to that of the first predetermined performance characteristic of the first semiconductor device.

4. The multi-chip module system of claim 1, further comprising:
the other vacant position having a predetermined configuration for locating a second semiconductor device thereat; and
a second semiconductor device having a predetermined performance characteristic of at least substantially twice to that of the first predetermined performance characteristic of the first semiconductor device.

5. A multi-chip module system comprising:
a substrate having a first position having, in turn, a predetermined configuration for locating a first semiconductor device thereat, having a second position having, in turn, a predetermined configuration for locating a second semiconductor device thereat, and having at least one other vacant position having, in turn, a predetermined configuration for locating a third semiconductor device thereat on the multi-chip module system;
a first semiconductor device located in the first position of the substrate for use in said multi-chip module system, the first semiconductor device having a first predetermined performance characteristic; and
a second semiconductor device located in the second position of the substrate for use in said multi-chip module system, the second semiconductor device having a second predetermined performance characteristic.

6. The multi-chip module system of claim 4, further comprising:
the other vacant position having a predetermined configuration for locating a third semiconductor device thereat which is substantially the same as the first semiconductor device.

7. The multi-chip module system of claim 4, further comprising:
the other vacant position having a predetermined configuration for locating a third semiconductor device thereat; and
a third semiconductor device having a predetermined performance characteristic substantially to that of the first predetermined performance characteristic of the first semiconductor device.

8. The multi-chip module system of claim 4, further comprising:
the other vacant position having a predetermined configuration for locating a third semiconductor device thereat; and
a third semiconductor device having a predetermined performance characteristic of at least substantially twice to that of the first predetermined performance characteristic of the first semiconductor device.

9. The multi-chip module system of claim 4, further comprising:
the other vacant position having a predetermined configuration for locating a third semiconductor device thereat; and
a third semiconductor device having a predetermined performance characteristic of at least substantially three times greater than that of the second predetermined performance characteristic of the second semiconductor device.

10. The multi-chip module system of claim 4, further comprising:
the other vacant position having a predetermined configuration for locating a third semiconductor device thereat; and
a third semiconductor device having a predetermined performance characteristic of at least substantially four times greater than that of the first and second predetermined performance characteristic of the first semiconductor device and the second semiconductor device combined.

11. The multi-chip module system of claim 4, wherein the first semiconductor device comprises a memory device.

12. The multi-chip module system of claim 4, wherein the second semiconductor device comprises a memory device.

13. The multi-chip module system of claim 4, wherein the first semiconductor device comprises a microprocessor device.

14. The multi-chip module system of claim 4, wherein the second semiconductor device comprises a microprocessor device.

15. The multi-chip module system of claim 4, wherein the multi-chip module system comprises a single in-line memory module system.

16. The multi-chip module of claim 4, further comprising:
a third semiconductor device; and
an adapter connected to the third semiconductor device, the adapter having a configuration for connecting the adapter to the other vacant position on the substrate to connect the third semiconductor device to the substrate.

17. A multi-chip module system comprising:

- a substrate having a first position having, in turn, a predetermined configuration for locating a first semiconductor device thereat, having a second position having, in turn, a predetermined configuration for locating a second semiconductor device thereat, having a first vacant position having, in turn, a predetermined configuration for locating a third semiconductor device thereat, and having a second vacant position having, in turn, a predetermined configuration for locating a fourth semiconductor device thereat on the multi-chip module;
- a first semiconductor device located in the first position of the substrate for use in said multi-chip module system, the first semiconductor device having a first predetermined performance characteristic; and
- a second semiconductor device located in the second position of the substrate for use in said multi-chip module system, the second semiconductor device having a second predetermined performance characteristic.

18. The multi-chip module of claim 17, wherein:

- the first vacant position located on the substrate is located on one side of the substrate; and
- the second vacant position located on the substrate is located on the other side of the substrate.

19. A multi-chip module system comprising:

- a substrate having at least a first predetermined configuration position for locating a first semiconductor device thereat and having at least one other vacant predetermined configuration position for locating a second semiconductor device thereat on the multi-chip module system; and
- a first semiconductor device located in the first predetermined configuration position of the substrate for use in said multi-chip module system, the first semiconductor device having a first predetermined performance characteristic.

20. The multi-chip module system of claim 19, further comprising:
the other vacant predetermined configuration position for locating a second semiconductor
device thereat which is substantially the same as the first semiconductor device.

21. The multi-chip module system of claim 19, further comprising:
the other vacant predetermined configuration position having a predetermined configuration for
locating a second semiconductor device thereat; and
a second semiconductor device having a predetermined performance characteristic substantially
to that of the first predetermined performance characteristic of the first semiconductor
device.

22. The multi-chip module system of claim 19, further comprising:
the other vacant predetermined configuration position having a predetermined configuration for
locating a second semiconductor device thereat; and
a second semiconductor device having a predetermined performance characteristic of at least
substantially twice to that of the first predetermined performance characteristic of the first
semiconductor device.

23. A multi-chip module system comprising:
a substrate having a first predetermined configuration position for locating a first semiconductor device thereat, having a second predetermined configuration position for locating a second semiconductor device thereat, and having at least one other vacant predetermined configuration position for locating a third semiconductor device thereat on the multi-chip module system;
a first semiconductor device located in the first predetermined configuration position of the substrate for use in said multi-chip module system, the first semiconductor device having a first predetermined performance characteristic; and
a second semiconductor device located in the second predetermined configuration position of the substrate for use in said multi-chip module system, the second semiconductor device having a second predetermined performance characteristic.

24. The multi-chip module system of claim 23, further comprising:
the other predetermined configuration vacant position for locating a third semiconductor device thereat which is substantially the same as the first semiconductor device.

25. The multi-chip module system of claim 23, further comprising:
the other vacant predetermined configuration for locating a third semiconductor device thereat;
and
a third semiconductor device having a predetermined performance characteristic substantially to that of the first predetermined performance characteristic of the first semiconductor device.

26. The multi-chip module system of claim 23, further comprising:
the other vacant predetermined configuration position for locating a third semiconductor device
thereat; and
a third semiconductor device having a predetermined performance characteristic of at least
substantially twice to that of the first predetermined performance characteristic of the first
semiconductor device.

27. The multi-chip module system of claim 23, further comprising:
the other vacant predetermined configuration position for locating a third semiconductor device
thereat; and
a third semiconductor device having a predetermined performance characteristic of at least
substantially three times greater than that of the second predetermined performance
characteristic of the second semiconductor device.

28. The multi-chip module system of claim 23, further comprising:
the other vacant predetermined configuration position for locating a third semiconductor device
thereat; and
a third semiconductor device having a predetermined performance characteristic of at least
substantially four times greater than that of the first and second predetermined
performance characteristic of the first semiconductor device and the second
semiconductor device combined.

29. The multi-chip module system of claim 23, wherein the first semiconductor
device comprises a memory device.

30. The multi-chip module system of claim 23, wherein the second semiconductor
device comprises a memory device.

31. The multi-chip module system of claim 23, wherein the first semiconductor device comprises a microprocessor device.

32. The multi-chip module system of claim 23, wherein the second semiconductor device comprises a microprocessor device.

33. The multi-chip module system of claim 23, wherein the multi-chip module system comprises a single in-line memory module system.

34. The multi-chip module of claim 23, further comprising:
a third semiconductor device; and
an adapter connected to the third semiconductor device, the adapter for connecting the adapter to the other vacant predetermined configuration position on the substrate to connect the third semiconductor device to the substrate.

35. A multi-chip module system comprising:
a substrate having a first predetermined configuration position for locating a first semiconductor device thereat, having a second predetermined configuration position for locating a second semiconductor device thereat, having a first vacant predetermined configuration position for locating a third semiconductor device thereat, and having a second vacant predetermined configuration for locating a fourth semiconductor device thereat on the multi-chip module;
a first semiconductor device located in the first predetermined configuration position of the substrate for use in said multi-chip module system, the first semiconductor device having a first predetermined performance characteristic; and
a second semiconductor device located in the second predetermined configuration position of the substrate for use in said multi-chip module system, the second semiconductor device having a second predetermined performance characteristic.

